

In the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A system of automated sorter operation for held or banked wafer lots, comprising:
 - a storage device capable of storing ~~a plurality of process records, each process record corresponding to a wafer lot and comprising an identity and a current status indicating if the wafer lot is on hold, in a production or in a non-production bank~~ information regarding a current status of a wafer lot, the current status indicating the wafer lot is on hold, in production bank, or in non-production bank; and
 - a sorting module ~~receiving a wafer lot identity, acquiring~~ detecting the current status ~~corresponding to~~ of the wafer lot ~~identity~~ from the ~~process record storage device~~, issuing ~~[[a]]~~ at least one first status setting ~~instruction corresponding to~~ instructions according to the current status of the wafer lot to a manufacturing execution system (MES) to release the wafer lot, issuing a flow instruction with sorting recipes directing the MES to perform a sorter operation after issuing the at least one first status setting instruction, and issuing ~~[[a]]~~ at least one second status setting ~~instruction corresponding to~~ instructions according to the current status of the wafer

lot to the MES to hold or bank the wafer lot again after completing the sorting operation.

wherein the at least one second status setting instruction describes a reverse procedure of a status change procedure described by the at least one first status setting instruction, and the wafer lot cannot be processed when the wafer lot is on hold in production bank, or in non-production bank.

2. (Currently Amended) The system of claim 1 wherein the sorting module stores the current status ~~[[into]]~~in a temporary file or table, issues the second status setting instruction ~~corresponding to~~ according to the current status of the wafer lot in the temporary file or table, and removes the temporary file or table after the sorter operation.

3. (Cancelled).

4. (Currently Amended) The system of claim 1 wherein the MES releases or holds/banks the wafer lot based on the first status setting instruction or instructions, or the at least one second status setting instruction respectively.

5. (Currently Amended) The system of claim 1 further comprising a wafer sorter performing sorter operations according to the sorting recipes.

6. (Original) The system of claim 5 further comprising a transport system transporting the wafer lot to the wafer sorter.

7. (Currently Amended) The system of claim 6 wherein the MES applies a tool dispatch rule to determine the wafer sorter as a destination for the wafer lot, starts~~start~~ the transport system to transfer the wafer lot to the wafer sorter, and direct the wafer sorter to perform the sorter operation using automated instructions.

8. The system of claim 1 wherein the sorter operation is slot mapping, carrier exchange, wafer lot combination or splits.

9-24. (Canceled)

25. (New) The system of claim 1 wherein, when the storage device stores information indicating the wafer lot is on hold, the sorting module issues the first status setting instruction to set the current status of the wafer lot to “hold release”, and issues the second status setting instruction to set the current status of the wafer lot to “hold lot”.

26. (New) The system of claim 25 wherein the wafer lot is on hold when the wafer lot is held for inspection between a start operation and an end operation during fabrication.

27. (New) The system of claim 1 wherein, when the storage device stores information indicating the wafer lot is on production bank, the sorting module issues the first status setting instructions to sequentially set the current status of the wafer lot to “hold release” and “bank move/bank in cancel”, and issues the second status setting instructions to sequentially set the current status of the wafer lot to “bank move/bank in” and “hold lot”.

28. (New) The system of claim 27 wherein the wafer lot is in production bank when the wafer lot is banked due to quality issue after an end operation completing fabrication.

29. (New) The system of claim 1 wherein, when the storage device stores information indicating the wafer lot is on non-production bank, the sorting module issues the first status setting instructions to sequentially set the current status of the wafer lot to “hold release” and “non-production bank out”, and issues the second status setting instructions to sequentially set the current status of the wafer lot to “non-production bank in” and “hold lot”.

30. (New) The system of claim 29 wherein the wafer lot is in production bank when the wafer lot is banked due to quality issue between a start operation and an end operation during fabrication.